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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/568,837

02/17/2006

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NL030998

6992

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7590

05/19/2009

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

BERMAN, SUSAN W

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

05/19/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/568,837	<b>Applicant(s)</b> VERSTEGEN ET AL.	
	<b>Examiner</b> /Susan W. Berman/	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 12-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 18-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Response to Amendment***

The rejection of claims 1, 2 and 6-11 under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ha et al (6,180,200) is withdrawn.

The rejection of claims 1, 3 and 6-9 under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al (5,366,812) is withdrawn.

New grounds of rejection are set forth herein below in response to the amended claims.

***Response to Arguments***

Applicant's arguments filed 03-26-2009 have been fully considered but they are not persuasive.

Non-leaching properties: Applicant argues that none of the cited references teaches a “non-leaching” adhesive. This argument is not persuasive because each of the cited references teaches compositions comprising (meth)acrylate monomers, allylic monomers, or norbornene monomers or multifunctional thiol monomers in combination with ethylenically unsaturated monomers, as required in instant claim 1 and would therefor, in the absence of evidence to the contrary, be expected to provide “non-leaching” compositions. The reason is that the components of the compositions in the cited art would be expected to polymerize so that there would not be unreacted components that could be leached into a substrate and damage the product. There is no comparative evidence of record to the contrary. The comparative example in the instant specification comprises an epoxy-amine adhesive that is not representative of the cited prior art.

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Kitsunai et al.: Applicant argues that the compositions disclosed by Kitsunai et al require a silane coupling agent to provide durability, appearance and adhesion properties. This composition is now recited in instant claims 9-11 and 19. See column 3, lines 11-24, in Kitsunai et al. With respect to claims 5, 18 and 21, Kitsunai et al teach an adhesive compositions comprising a bisphenol A type epoxy (meth)acrylate, thus disclosing 2,2-bis[4-(3-acryloyloxy-2-hydroxypropoxy)phenyl]propane, which is the chemical name for a propoxylated bisphenol A epoxy di(meth)acrylate. See column 3, lines 46-48.

Tokuda et al.: Applicant requests clarification of the disclosure of the limitations of claim 5 in Tokuda et al. Tokuda et al teach an adhesive compositions comprising a bisphenol type epoxy (meth)acrylate, thus disclosing 2,2-bis[4-(3-acryloyloxy-2-hydroxypropoxy)-phenyl]propane, which is the chemical name for a propoxylated bisphenol epoxy di(meth)acrylate. See the tradenamed epoxy resins disclosed in column 3, lines 11-23.

Iida: Applicant argues that Iida does not disclose non-leaching adhesives. This argument is not persuasive because no evidence is provided to support the allegation that the disclosed compositions comprising (meth)acrylate and thiol compounds and a photoinitiator, as instantly claimed, are non-leaching.

Takahashi et al.: Applicant argues that Takahashi et al do not disclose adhesive composition comprising the disclosed thermoplastic saturated norbornene polymers. Applicant argues that the compositions are taught for providing sheet-like or film-like articles useful as substrates in optical recording articles. This argument is persuasive and the rejection of record is withdrawn.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. What is disclosed is a “at least one of said monomers, not being a thiol, is provided with at least two functional groups, which groups take part in the polymerization process” at page 2, lines 21-23. What is described is thiol-ene systems comprising monomers having multiple thiol groups and monomers having multiple allyl groups that react with the thiol groups.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 2, It is not clear what is meant by “functional polymerizable groups” in the non-thiol monomer. Does applicant intend to recite functional groups or polymerizable groups or combinations thereof? If applicant intends to claim monomers

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containing two functional and/or two polymerizable groups, it should be so stated. The kinds of functional groups and the kinds of polymerizable groups should be clearly set forth in the claim. What is disclosed in the instant specification is a “at least one of said monomers, not being a thiol, is provided with at least two functional groups, which groups take part in the polymerization process” at page 2, lines 21-23. This disclosure suggests that the “functional” groups are the “polymerizable” groups.

With respect to claim 21, It is not clear whether applicant intends to claim the generic groups, such as “acrylate and methacrylate monomers” or the specific monomers, such as “2,2-bis[4-(3-acryloyloxy-2-hydroxypropoxy)phenyl]propane”. Claim 1 recites the generic groups, so it is suggested that claim 21 be rewritten to recite, for instance, “selected from the groups consisting of 2,2-bis[4-(3-acryloyloxy-2-hydroxypropoxy)phenyl]propane and 2,2-bis[4-(3-methacryloyloxy-2-hydroxypropoxy)phenyl]propane...”.

### ***Claim Rejections - 35 USC § 102/103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 9-11 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kitsunai et al (6,627,287, filed 04-25-2001). Kitsunai et al disclose an adhesive composition having strong adhesion for bonding an optical disc comprising a silane coupling agent corresponding to the “surface activating agent” set forth in instant claim 9, a UV curable (meth)acrylate compound and a photopolymerization initiator.

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Photopolymerizable monomers taught include monofunctional and polyfunctional (meth)acrylates (column 3). Initiators are taught in column 4, lines 3-31. Bisphenol A epoxy acrylate modified with ethylene oxide or propylene oxide, as set forth in instant claim 19, is taught in column 3, lines 46-48. Example 2 discloses a composition comprising bisphenol A type epoxy acrylate and tripropylene glycol diacrylate in combination with a phosphine oxide photoinitiator and methacryloxypropyltrimethoxysilane. The compositions disclosed by Kitsunai et al comprise a UV curable (meth)acrylate compound, a silane adhesion promoter and a photopolymerization initiator. The disclosed curable compositions would be expected to provide a non-leaching, adhesive system, in the absence of evidence to the contrary, because the components of the disclosed compositions correspond to those recited in the instant claims.

Claims 1, 5-10 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tokuda et al (6,017,603). Tokuda et al disclose a UV curable adhesive composition for bonding DVDs. The composition comprises (A) a bisphenol A epoxy acrylate, (B) a urethane (meth)acrylate, (C) a (meth)acrylate monomer other than (A) or (B) and a photoinitiator. See column 3, lines 11-23, column 5, line 51, to column 6, line 6, column 6, lines 55-57, column 7, lines 16-38 and the Examples. Tokuda et al teach compositions comprising the epoxy (meth)acrylate recited in instant claim 5 in column 3, lines 11-23. With respect to claim 18, Tokuda et al teach adding tripropylene glycol di(meth)acrylate in column 4, lines 58-59. Photoinitiators are taught from column 5, line 51, to column 6, line 6. The compositions disclosed by Tokuda et al comprise a Bisphenol A epoxy (meth)acrylate compound and a photoinitiator. The disclosed curable compositions would be expected to

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provide a non-leaching, adhesive system, in the absence of evidence to the contrary, because the components of the disclosed compositions correspond to those recited in the instant claims.

Claims 1, 2 and 6-10 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Iida (6,171,675). Iida discloses UV curable adhesive composition for preparing optical discs comprising acrylate-functional compounds, a thiol compound and a photoinitiator. Thiol compounds, such as trimethylolpropane trithiopropionate or pentaerythritol tetrakisithiopropionate, are taught in column 2, lines 49-67. Polyfunctional acrylates are taught in column 3, lines 57-67. The compositions disclosed by Iida comprise (meth)acrylate compounds, thiol compounds and a photoinitiator. The disclosed curable compositions would be expected to provide a non-leaching, adhesive system, in the absence of evidence to the contrary, because the components of the disclosed compositions correspond to those recited in the instant claims.

Claim 3 is rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kurita et al (4,908,395). Kurita et al disclose an adhesive composition comprising a polyorganosiloxane having a photoinitiating group and a trialkylenyl isocyanurate, preferably triallyl isocyanurate (Abstract and column 4, lines 1-15). The disclosed curable compositions would be expected to provide a non-leaching, adhesive system, in the absence of evidence to the contrary, because the components of the disclosed compositions correspond to those recited in the instant claims.



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Claims 20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Green et al (4,308,367). Green et al disclose compositions comprising a compound (b) containing two mercaptan groups and a compound (a) containing a phenolic hydroxyl group and at least two (meth)allyl groups having excellent adhesion to polar substrates such as glass and metal (column 1, lines 47-68). See Examples 1, 4, 5 and 8-22. The disclosed curable compositions would be expected to provide a non-leaching, adhesive system, in the absence of evidence to the contrary, because the components of the disclosed compositions correspond to those recited in the instant claims.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tokuda et al. Tokuda et al teach adding a silane coupling agent to the disclosed composition but does not specifically mention the species set forth in instant claim 11. It would have been obvious to one skilled in the art at the time of the invention to employ the recited species of (meth)acryloyl silane as the (meth)acrylate type silane coupling agent taught by Tokuda et al. Tokuda et al provide motivation by teaching addition of a silane coupling agent that can be a (meth)acrylate type silane coupling agent (column 6, lines 51-57).

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Claims 4 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iida (6,171,675), as applied to claim 1, and further in view of Okawa et al (5,278,199).

Iida discloses UV curable adhesive composition for preparing optical discs comprising acrylate-functional compounds, a thiol compound and a photoinitiator. Thiol compounds, such as mercaptopropionates and thioglycolates, are taught in column 2, lines 49-67. Polyfunctional acrylates are taught in column 3, lines 57-67. The compositions disclosed by Iida comprise (meth)acrylate compounds, thiol compounds and a photoinitiator.

Okawa et al disclose a pressure sensitive adhesive composition comprising a psa organic compound, such as a rubber resin, and an actinic radiation curable formulation comprising a polythiol compound, such as thioglycolates, mercaptopropionates and aliphatic polythiols, and a polyene compound.

Iida does not disclose aliphatic polythiols, as set forth in instant claims 4 and 21. However, It would have been obvious to one skilled in the art at the time of the invention to substitute an aliphatic polythiol, as taught by Okawa et al in analogous art, for the thiol compounds in the compositions disclosed by Iida et al. Iida provides motivation by teaching that the thiol compound can be any compound having a mercapto group (column 2, lines 49-50). Okawa et al provide motivation by teaching that thioglycolates, mercaptopropionates or aliphatic polythiols are useful in adhesive compositions comprising acrylate-functional compounds. One skilled in the art at the time of the invention would have been motivated by a reasonable expectation of providing a useful adhesive composition.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kai et al (6,376,702) disclose radical curable compositions comprising 1-alkenyl ether compounds obtained by reacting a maleic acid and a polyalkylene glycol alkenyl ether.

Woods et al (6,451,948) disclose radical curable adhesive compositions comprising a (meth)acrylate and a diallyl ether compound. See the Examples.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Susan W. Berman/ whose telephone number is 571 272 1067.

The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SB  
5/14/2009

/Susan W Berman/  
Primary Examiner  
Art Unit 1796